

Claims:

1. A system for renting a software program in a distributed computing environment, wherein the rental software program includes a main executable file and optional files, comprising:

a user computer system including means for initially downloading the main executable file of the rental software program and means, if an optional file is missing, for automatically requesting one or more optional files contained in the rental software program; and

a server computer system for downloading the main executable file contained in the rental software program to be executed in said user computer system and means for automatically downloading the one or more optional files as requested by said user computer system.

2. The system as recited in claim 1, wherein said user computer system further comprising:

a storage means for storing the main executable file, the one or more optional files contained in the rental software program if downloaded and a list of optional files downloaded from said server computer system;

a process manager means further comprising means for creating and running a process corresponding to the main executable file, means for suspending the process if the process requests one or more optional files, and means for re-starting the process if said process manager means receives the one or more optional files from said server computer system; and

a monitor means for monitoring the process to determine whether the process requests the one or more optional files, and further comprising means for intercepting a message requesting the one or more optional files from the process,

and means for automatically requesting the one or more optional files to said server computer system.

3. The system as recited in claim 2, wherein said server computer system further comprising means for sending the list of optional files to said user computer system when said server computer sends the main executable file to said user computer system and wherein the optional files includes a registry file.

4. The system as recited in claim 3, wherein said user computer system further includes:

a protection means for protecting the rental software program rented from said server computer system to prevent an unauthorized use committed by said user computer system;

a converting means for converting registry file information contained in the list of optional files into registry file information appropriate to said user computer system; and

a billing database for storing billing information.

5. The system as recited in claim 4, wherein the billing information includes a billing start time, a billing end time and a name of the rental software program selected by said user computer system.

6. The system as recited in claim 4, wherein said process manager means further comprising means for flushing the main executable file and the one or more optional files stored in said storage means when the process is complete based on the registry file information.

7. The system as recited in claim 1, wherein said server computer system includes:

a verification means for verifying said user computer

system by using identification information of said user computer system stored in a user-information database;

a program database for storing path information of the main executable file, a list of rental software programs and  
5 a list of the optional files;

an analyzing means for analyzing a new rental software program when the new rental software program is installed in said server computer system, wherein said analyzing means further comprises means for storing the path information of  
10 the main executable file and a list of the optional files, associated with the new rental software program, in said program database;

a storage means for storing the main executable file and the one or more optional files; and

15 a means for obtaining and sending the main executable file stored in said storage means when said user computer system selects the desirable rental software program; and

means for obtaining and sending the one or more optional files stored in said storage means when said user computer  
20 system optionally requests the one or more optional files to said server computer system.

8. The system as recited in claim 7, wherein said server computer system further includes:

25 a billing means for processing charge or fee to be paid for the usage of the main executable file and the one or more optional files associated with the rental software program provided to said user computer system;

a log database for storing a log file necessary for  
30 recovering said server computer system when said server computer system is not operable due to a serious error;

a recovery means for recovering said server computer system by using the log file stored in said log database when  
35 said server computer system is not operable due to the serious error;

a schedule management means for managing a schedule of requests from said user computer system and another user computer system; and

a session management means for managing a communication session between said user computer system and said server computer system.

9. The system as recited in claim 8, wherein said server computer system sends the list of optional files to said user computer system when said server computer system sends the main executable file to said user computer system and wherein the optional files includes a registry file.

10. A method for renting a rental software program in a distributed computing environment, wherein the rental software program includes a main executable file and optional files, comprising:

performing a communication connection between a user computer system and a server computer system, wherein the user computer system is based on a user-transparent program install-free technology;

displaying a list of rental software programs downloaded from the server computer system;

selecting the rental software program in the list of rental software programs;

downloading a main executable file associated with the rental software program from the server computer system to run a process corresponding to the main executable file; and

if the process needs one or more optional files, downloading the one or more optional files from the server computer system.

11. The method as recited in claim 10, wherein establishing the communications further comprises:

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suspending the process until the user computer system  
downloads the one or more optional files from the server

computer system; and

if the user computer system downloads the one or more optional files from the server computer system, re-running the process.

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14. The method as recited in claim 11, wherein the process completion step further comprises:

determining whether the process has been complete;

10 if the process has been complete, performing a procedure accompanying a process completion;

determining whether the user computer system wants to select another rental software program;

15 if the user computer system wants to select the another rental software program, repeating the steps to download the optional files; and

if the user computer system does not want to select the another rental software program, terminates the communication connection between the user computer system and the server computer system.

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15. The method as recited in claim 14, wherein the process completion step further comprises:

if the process has been complete, terminating the file monitor and the protector;

25 storing a billing end time in the billing information database of the user computer system;

informing the server computer system of the billing end time; and

30 flushing the main executable file and the one or more optional files stored in the storage device of the user computer system.

16. A method for servicing an install-free application in an online software rental system, comprising:

35 getting a list of applications available for a rental

service from a server computer system;

establishing a rental session between a client computer system and the server computer system;

fetching one or more application software from a plurality of application software stored in the server computer system;

executing the one or more application software in the client computer system; and

if said prior step is complete, flushing the one or more application software rented from the server computer system.

17. The method as recited in claim 16, wherein the list of applications is established on Internet.

18. The method as recited in claim 16, wherein the one or more application software include a main executable file.

19. The method as recited in claim 16, wherein the one or more application software is authorized by the server computer system.

20. The method as recited in claim 18, wherein executing the application software further comprises:

creating a process corresponding to the main executable file;

running the process;

monitoring additional requests to access related files from the process by message hooking and file monitoring while the process is running;

if the process needs any related file, generating a message requesting one or more related files and transmitting the message to the server computer system to fetch the one or more related files based on an on-demand scheme; and

re-running the process after the one or more related files are delivered to the client computer system.

21. A computer-readable media storing program instructions, the program instructions disposed on a computer to perform a method for renting a rental software program in a distributed computing environment, wherein the rental software program includes a main executable file and optional files, comprising the steps of:

establishing a communication connection between a user computer system and a server computer system, wherein the user computer system is based on a user-transparent program install-free technology;

displaying a list of rental software programs downloaded from the server computer system;

selecting the rental software program in the list of rental software programs;

downloading a main executable file associated with the rental software program from the server computer system to run a process corresponding to the main executable file; and

if the process needs one or more optional files, downloading the one or more optional files from the server computer system.

22. The computer-readable media as recited in claim 21, wherein establishing the communications further comprises:

performing the communication connection between the user computer system and the server computer system; and

verifying the user computer system in the server computer system.

23. The computer-readable media as recited in claim 21, wherein downloading further comprises:

downloading the main executable file and a list of optional files from the server computer system, wherein the optional files include a registry file;

converting registry file information contained in the



running a file monitor and a protector, which protects the rental software program including the main executable file and the one or more optional files from an unauthorized use committed by the user computer system;

informing the server computer system of the billing start time; and

24. The computer-readable media as recited in claim 23, wherein downloading optional files further comprise:

monitoring the process in the file monitor in order to determine whether the process needs the one or more optional files;

if the process needs the one or more optional files,  
hooking a message requesting the one or more optional files  
from process;

suspending the process until the user computer system  
downloads the one or more optional files from the server  
computer system; and

if the user computer system downloads the one or more optional files from the server computer system, re-running the process.

25. The computer-readable media as recited in claim 22, wherein downloading the optional files further comprises:

determining whether the process has been complete;

if the process has been complete, performing a procedure accompanying a process completion;

determining whether the user computer system wants to

5        if the user computer system does not want to select the  
another rental software program, terminates the communication  
connection between the user computer system and the server  
computer system.

flushing the main executable file and the one or more optional files stored in the storage device of the user computer system.

a storage means for storing the main executable file and the one or more optional files pulled out of the server computer system;

a process manager means for creating and running a process corresponding to the main executable file; suspending the process if the process requests the one or more optional files; and re-running the process if said process manager means receives the one or more optional files; and

a monitor means for monitoring the process to determine whether the process requests the one or more optional files; and hooking a message requesting the one or more optional files from the process.

29. The system as recited in claim 28, further comprising:

a protection means for protecting the rental software program to prevent an unauthorized use committed by said user computer system; and

a billing database for storing billing information.

30. The system as recited in claim 29, wherein the billing information includes a billing start time, a billing end time and a name of the rental software program.

31. The system as recited in claim 30, wherein said process manager means flushes the main executable file and the one or more optional files stored in said storage means when the process is complete.

32. A system for providing a rental software program in a distributed computing environment, wherein the rental software program includes a main executable file and one or more optional files, comprising:

a first means for pushing the main executable file into a user computer system; and

a second means for pushing the one or more optional files into the user computer system.

34. The system as recited in claim 30, wherein said  
5 first and second means are intended for freeware.

10       a program database for storing path information of the  
main executable file, a list of rental software programs and  
a list of the optional files;

a storage means for storing the main executable file and the one or more optional files.

a first means for pulling the main executable file and the one or more optional files; and

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37. The system as recited in claim 36, wherein said

a storage means for storing the main executable file and the one or more optional files;

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5           a monitor means for monitoring the process to determine whether the process requests the one or more optional files; and hooking a message requesting the one or more optional files from the process.

a protection means for protecting the rental software program to prevent an unauthorized use; and

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a program database for storing path information of the main executable file, a list of rental software programs and a list of the optional files;

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a storage means for storing the main executable file and the one or more optional files.

42. A server for renting a rental software program to a client computer, the server comprising:

means for storing a software program that is rentable by a user, the software program including a main executable file and one or more optional files;

means for downloading the main executable file in response to a user's request to rent the software program; and

means for automatically streaming the one or more optional files associated with the main executable file down to the user's computer when requested by the client computer, wherein the server implements an install fee, user transparent rental technique since the optional files are automatically downloaded to the client computer as needed.

43. The server as recited in claim 42 further comprising means for downloading a list of optional files to said user computer system when said server computer sends the main executable file to said client computer system and wherein the optional files includes a registry file.

44. The server as recited in claim 42 further comprising:

a verification means for verifying said user computer system by using identification information of said user computer system stored in a user-information database;

a program database for storing path information of the main executable file, a list of rental software programs and a list of the optional files;

an analyzing means for analyzing a new rental software program when the new rental software program is installed in said server computer system, wherein said analyzing means

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a storage means for storing the main executable file and  
5 the one or more optional files; and

45. The server as recited in claim 44 further  
15 comprising:

20           a log database for storing a log file necessary for  
recovering said server computer system when said server  
computer system is not operable due to a serious error;

a schedule management means for managing a schedule of requests from said user computer system and another user computer system; and

46. The server as recited in claim 45 further comprising  
35 means for sending a list of optional files to said user

computer system when said server computer system sends the main executable file to said user computer system and wherein the optional files includes a registry file.

5 47. A client for renting a software program in a distributed computing environment, wherein the rental software program includes a main executable file and optional files, comprising:

means for requesting a rental software program from the  
10 server;

means for receiving the main executable file of the software program from the server;

means for determining that an optional file is required by the main executable file;

15 means for requesting the optional file from the server; and

means for receiving the optional file.

20 48. The client as recited in claim 47 further comprising:

a storage means for storing the main executable file, the one or more optional files contained in the rental software program if downloaded and a list of optional files downloaded from said server computer system;

25 a process manager means further comprising means for creating and running a process corresponding to the main executable file, means for suspending the process if the process requests one or more optional files, and means for re-starting the process if said process manager means  
30 receives the one or more optional files from said server computer system; and

a monitor means for monitoring the process to determine whether the process requests the one or more optional files, and further comprising means for intercepting a message  
35 requesting the one or more optional files from the process,

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and means for automatically requesting the one or more optional files to said server computer system.

49. The client as recited in claim 48 further comprising:

a protection means for protecting the rental software program rented from said server computer system to prevent an unauthorized use committed by said user computer system;

a converting means for converting registry file information contained in the list of optional files into registry file information appropriate to said user computer system; and

a billing database for storing billing information.

50. The client as recited in claim 49, wherein the billing information includes a billing start time, a billing end time and a name of the rental software program selected by said user computer system.

51. The client as recited in claim 50, wherein said process manager means comprises means for flushing the main executable file and the one or more optional files stored in said storage means when the process is complete.